

REMARKS

By this Response, Applicants respond to the Office Action dated July 5, 2005 (“the Office Action”), in which Claims 1-30 were rejected. Claims 1-30 remain pending in this application.

Rejection of Claims 1-19 and 21-30 under 35 U.S.C. § 103(a)

Claims 1-19 and 21-30 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,953,020 to Wang et al. (“Wang”) in view of U.S. Publication No. 2003/0177164 to Savov et al. (“Savov”). Applicants respectfully traverse for at least the reasons set forth below.

Claim 1 recites a method for implementing a software FIFO, and includes receiving a request to write data to the FIFO, determining whether the FIFO is full by comparing the value of a counting semaphore with a predefined maximum value, and writing data to the FIFO if the value of the counting semaphore is less than the predefined maximum.

As explained in more detail below, Applicants respectfully submit that the Examiner has failed to establish a *prima facie* rejection of claims 1-19 and 21-30 for at least the reasons that the combination of references cited by the Examiner fail to teach or suggest all of Applicants’ claim limitations, and that there is no suggestion or motivation to combine the teachings of the cited references.

With respect to claim 1, Applicants respectfully submit that the combination of Wang and Savov fails to teach or suggest all of the limitations of Applicants claim. In particular, although the Examiner acknowledges that Wang fails to teach the use of counting semaphores, the Examiner nonetheless indicates that Wang teaches the actions of comparing the value of a semaphore to a predefined maximum and incrementing the semaphore if the value of the semaphore is less than the predefined maximum – actions that describe the behavior of a counting semaphore and are thus not taught by Wang, since Wang does not teach counting semaphores.

In addition, Applicants respectfully submit that there is no motivation to combine Wang with Savov. For example, Savov indicates that one might want to use semaphores in the context of a multi-processing environment. *See* Savov at para. 13. However, Wang appears to describe the use of a FIFO in a uni-processor environment (a graphics chip), and thus there would be no

motivation to combine the teachings of Savov with those of Wang.

In summary, it is respectfully submitted that the combination of Wang and Savov fails to teach or suggest each of the elements of claim 1, and, in any event, there is no motivation to combine Wang with Savov. For at least these reasons, Applicants respectfully submit that claim 1 is patentable over Wang in view of Savov.

Claims 2-10 are dependent on claim 1, and are thus allowable for at least the reasons set forth above in connection with claim 1.

Similarly, with respect to claim 11, Applicants respectfully submit that the combination of Wang and Savov fails to teach or suggest all of the limitations of Applicants claim. In particular, although the Examiner acknowledges that Wang fails to teach the use of counting semaphores, the Examiner nonetheless indicates that Wang teaches computer code for performing the actions of comparing the value of a semaphore to a predefined maximum and incrementing the semaphore if the value of the semaphore is less than the predefined maximum – actions that describe the behavior of a counting semaphore and are thus not taught by Wang, since Wang does not teach counting semaphores.

In addition, Applicants respectfully submit that there is no motivation to combine Wang with Savov. For example, Savov indicates that one might want to use semaphores in the context of a multi-processing environment. *See* Savov at para. 13. However, Wang appears to describe the use of a FIFO in a uni-processor environment (a graphics chip), and thus there would be no motivation to combine the teachings of Savov with those of Wang.

In summary, it is respectfully submitted that the combination of Wang and Savov fails to teach or suggest each of the elements of claim 11, and, in any event, there is no motivation to combine Wang with Savov. For at least these reasons, Applicants respectfully submit that claim 11 is patentable over Wang in view of Savov.

Claim 12 is dependent on claim 11, and is thus allowable for at least the reasons set forth above in connection with claim 11.

With respect to claim 13, Applicants respectfully submit that the combination of Wang and Savov also fails to teach or suggest all of the limitations of this claim. In particular neither Wang nor Savov teach or suggest computer code that is operable to implement a FIFO using a counting semaphore. Specifically, as the Examiner acknowledges, Wang fails to teach a counting semaphore. In addition, although Wang apparently describes the simulation of certain

FIFO characteristics, this is not the same as computer code that actually implements a FIFO. Similarly, Savov also does not appear to describe the implementation of a FIFO using computer code in the manner recited in Applicants claim.

In addition, Applicants respectfully submit that there is no motivation to combine Wang with Savov. For example, Savov indicates that one might want to use semaphores in the context of a multi-processing environment. *See* Savov at para. 13. However, Wang appears to describe the use of a FIFO in a uni-processor environment (a graphics chip), and thus there would be no motivation to combine the teachings of Savov with those of Wang.

In summary, it is respectfully submitted that the combination of Wang and Savov fails to teach or suggest each of the elements of claim 13, and, in any event, there is no motivation to combine Wang with Savov. For at least these reasons, Applicants respectfully submit that claim 13 is patentable over Wang in view of Savov.

Claims 14-19 and 21-22 are dependent on claim 13, and are thus allowable for at least the reasons set forth above in connection with claim 13.

With respect to claim 23, Applicants respectfully submit that the combination of Wang and Savov fails to teach or suggest all of the limitations of Applicants claim. In particular, although the Examiner acknowledges that Wang fails to teach the use of counting semaphores, the Examiner nonetheless indicates that Wang teaches the actions of atomically incrementing the value of the count, and taking at least one action in a second process based on the incremented value of the count – actions that describe the behavior of, and response to, a counting semaphore, and are thus not taught by Wang, since Wang does not teach counting semaphores.

In addition, Applicants respectfully submit that there is no motivation to combine Wang with Savov. For example, Savov indicates that one might want to use semaphores in the context of a multi-processing environment. *See* Savov at para. 13. However, Wang appears to describe the use of a FIFO in a uni-processor environment (a graphics chip), and thus there would be no motivation to combine the teachings of Savov with those of Wang.

In summary, it is respectfully submitted that the combination of Wang and Savov fails to teach or suggest each of the elements of claim 23, and, in any event, there is no motivation to combine Wang with Savov. For at least these reasons, Applicants respectfully submit that claim 23 is patentable over Wang in view of Savov.

Claims 24-30 are dependent on claim 23, and are thus allowable for at least the reasons

set forth above in connection with claim 23.

Rejection of Claim 20 under 35 U.S.C. § 103(a)

Claim 20 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Wang in view of Savov and further in view of U.S. Patent No. 6,522,682 to Kohli et al. ("Kohli"). Claim 20 is dependent on claim 13, however, and is thus allowable for at least the reasons set forth above in connection with claim 13. Applicants therefore respectfully request that the Examiner withdraw the rejection of this claim.

CONCLUSION

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

In the unlikely event that the transmittal letter accompanying this document is separated from this document and the Patent Office determines that an Extension of Time under 37 CFR 1.136 and/or any other relief is required, Applicant hereby petitions for any required relief including Extensions of Time and/or any other relief and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. **50-1217** (Order No. **INTCP002**).

Respectfully submitted,



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